

## Abstract

A residual stress improving apparatus for piping, which can heat an outer peripheral surface of piping to reduce (including eliminate) the residual stress of the piping, whose apparatus configuration is relatively compact, and which can also heat the outer peripheral surface of a bending pipe portion, is provided. For this purpose, the apparatus has a laser head portion 6, and circumferential direction moving means composed of a ring rail 3 and a rotational travel bogie 5. Further, the apparatus may include reflection direction adjusting means for adjusting the reflection direction of laser light so that the laser light reflected by the outer peripheral surface of the piping does not return to the laser head, delivery direction adjusting means for adjusting the delivery direction of the laser light so that the outer peripheral surface of the bending pipe portion located forwardly, in the pipe axis direction, of the laser head is irradiated with the laser light, pipe axis direction moving means for moving the laser head portion in the pipe axis direction, output adjusting means for adjusting the output of the laser light so that the irradiation intensity on the outer peripheral surface of the bending pipe portion becomes uniform, and pivoting means capable of bringing the forward side, in the pipe axis direction, of the laser

head portion close to and away from the outer peripheral surface of the bending pipe portion.